What is claimed is:

1. A liquid crystal element comprising a liquid crystal molecule which moves in two or more directions phasedly or gradually by applying a voltage.

2. A liquid crystal element comprising:

a liquid crystal having a liquid crystal molecule; and

two substrates holding the liquid crystal;

wherein:

an information for aligning a liquid crystal molecule in two or more directions phasedly or gradually by applying a voltage is provided for said two substrates.

3. A liquid crystal element comprising:

a liquid crystal having a liquid crystal molecule; and

two substrates holding the liquid crystal;

wherein:

an information for aligning a liquid crystal molecule in two or more directions phasedly or gradually by applying a voltage is provided for only one of said two substrates.

4. A liquid crystal element according to Claim 2 or 3, wherein a dielectric anisotropy of said liquid crystal is negative.

5. A liquid crystal element according to Claim 4, wherein the liquid crystal molecule contacts with a surface of either of said two substrates at an angle of 80 to 90° .

6. A liquid crystal element according to Claim 4, wherein the liquid crystal molecule contacts with a surface of both of said two substrates at an angle of 80 to 90° .

7. A liquid crystal element according to any one of Claims 4 to 6, wherein:

said information for aligning is provided for each of two substrates in two directions wherebetween an angle is 45° ; and

each of two directions on a substrate is parallel with a counterpart of the direction on the other substrate.

8. A liquid crystal element according to Claim 2 or 3, wherein a dielectric anisotropy of said liquid crystal is positive.

9. A liquid crystal element according to Claim 8, wherein the liquid crystal molecule contacts with a surface of either of said two substrates at an angle of 0 to 10° .

10. A liquid crystal element according to Claim 8, wherein the liquid crystal molecule contacts with a surface of both of said two substrates at an angle of 0 to 10° .

11. A liquid crystal element according to any one of Claims 8 to 10, wherein:

said information for aligning is provided for each of two substrates in two directions wherebetween an angle is 45° ; and

each of two directions on a substrate is parallel with a counterpart of the direction on the other substrate.

12. A liquid crystal element according to any one of Claims 2 to 11, wherein said liquid crystal has a spontaneous polarization.

13. A liquid crystal element according to any one of Claims 2 to 12, wherein a different information for aligning in two or more directions is formed by a different method.

14. A liquid crystal element according to any one of Claims 2 to 13, wherein

one or both of said informations for aligning is irregularities formed on a surface of a substrate.

15. A liquid crystal element according to Claim 14, wherein said irregularities have a length, a width and a pitch which are arrayed arbitrarily in a direction.

16. A liquid crystal element according to Claim 14, wherein said irregularities are formed with a uniform pitch in a stripe.

17. A liquid crystal element according to any one of Claims 14 to 16, wherein said irregularities have a pitch of 2μm or less.

18. A liquid crystal element according to any one of Claims 14 to 17, wherein said irregularities have a ratio of a height to a pitch which is 0.01 to 10.

19. A liquid crystal element according to any one of Claims 2 to 13, wherein the other of said informations for aligning is a rubbing direction.

20. A liquid crystal element according to any one of Claims 2 to 13, wherein the other of said informations for aligning is provided by an irradiation of an ultraviolet ray.

21. A liquid crystal element according to any one of Claims 2 to 13, wherein the other of said informations for aligning is a slit for causing a lateral electric field which is provided for an electrode.

22. A liquid crystal element according to any one of Claims 2 to 21, wherein a thin film transistor (TFT) is used as a driving element.

23. A liquid crystal element according to any one of Claims 2 to 21, wherein a metal-insulator-metal (MIM) is used as a driving element.

24. A liquid crystal element according to any one of Claims 2 to 21, wherein a stripe electrode for a simple matrix is used as an electrode.

25. A liquid crystal element according to any one of Claims 2 to 21, wherein a transparent electrode is used as an electrode.

26. A liquid crystal element according to any one of Claims 2 to 21, wherein a reflective electrode is used as an electrode.

27. A liquid crystal element according to any one of Claims 14 to 18, wherein:

said irregularities are composed of a flat electrode formed on a substrate, an insulating layer in a concavo-convex shape laminated on said electrode, a thin conductive layer laminated on said insulating layer, and a conductive continuity portion connecting said electrode and conductive layer.

28. A liquid crystal element according to any one of Claims 2 to 27, wherein a microarea is provided in a direction in which a liquid crystal molecule is aligned.

29. A liquid crystal element according to Claim 28, wherein said microarea is aligned in two or more different directions.

30. A liquid crystal element according to Claim 29, wherein the directions in which said microarea is aligned cross each other at a right angle.

31. A method of manufacturing a liquid crystal element comprising a step of providing an information for aligning a liquid crystal molecule in a direction for a substrate with an electrode by applying a voltage.

32. A method of manufacturing a liquid crystal element comprising:

a first step of providing an information for aligning a liquid crystal molecule in a direction for two substrates holding a liquid crystal having the liquid crystal molecule by applying a voltage; and

a second step of providing an information for aligning the liquid crystal

molecule in a different direction from said direction phasedly or gradually for said substrates.

33. A method of manufacturing a liquid crystal element according to Claim 31 or 32, wherein said information for aligning is provided for the substrate by providing irregularities on a surface of at least one of the substrates.

34. A method of manufacturing a liquid crystal element according to Claim 31 or 33, wherein said irregularities are formed by patterning with a photosensitive resin.

35. A method of manufacturing a liquid crystal element according to Claim 34, wherein said irregularities are formed by patterning with a photomask.

36. A method of manufacturing a liquid crystal element according to Claim 34, wherein said irregularities are formed by patterning with interferential fringes of a laser.

37. A method of manufacturing a liquid crystal element according to Claim 34, wherein said irregularities are formed by patterning with a electron beam.

38. A method of manufacturing a liquid crystal element according to Claim 34, wherein said irregularities are formed by patterning with a laser ablation.

39. A method of manufacturing a liquid crystal element according to Claim 34, wherein said photosensitive resin has a characteristic of a conductivity.

40. A method of manufacturing a liquid crystal element according to Claim 33, wherein said irregularities are formed in a direction by forming a film with an inorganic substance or an organic substance on a substrate, and adding a physical contact such as an extension, a scratch and a rub to the film.

41. A method of manufacturing a liquid crystal element according to Claim 40, wherein the film formed with an inorganic substance or an organic substance

has a characteristic of a conductivity.

42. A method of manufacturing a liquid crystal element according to Claim 33, wherein said irregularities are formed by transferring a pattern of irregularities, which is formed on another substrate beforehand, on a surface of a substrate.

43. A method of manufacturing a liquid crystal element according to Claim 32, wherein said information for aligning is provided by irradiating an ultraviolet ray in at least one of the first step and the second step.

44. A method of manufacturing a liquid crystal element according to Claim 32, wherein said information for aligning is provided by executing a rubbing treatment in at least one of the first step and the second step.

45. A liquid crystal element according to any one of Claims 2 to 30, comprising at least one polarizer.

46. A liquid crystal element according to any one of Claims 2 to 30, comprising at least one polarized beam splitter.

47. A liquid crystal element according to Claim 45 or 46, comprising a retardation plate.

48. A liquid crystal element according to Claim 45 or 46, comprising a scattering plate.

49. A liquid crystal element according to any one of Claims 2 to 30 and 45 to 48, said liquid crystal element being used as an optical switching element.

50. A method of driving a liquid crystal element, wherein a liquid crystal element according to any one of Claims 2 to 30 and 45 to 49 is driven by applying a voltage above a higher appropriate voltage than a threshold voltage of a liquid crystal.

51. A liquid crystal element comprising:

a multitude of pixel electrodes which are divided minutely; and

a liquid crystal to which an electric field is applied by said pixel electrodes;

wherein:

an electric field direction of the liquid crystal between at least one pair of adjacent pixels is inclined against an electrode plane.

52. A liquid crystal element comprising:

a multitude of pixel electrodes which are divided minutely;

an opposite electrode which is disposed in parallel with said pixel electrodes; and

a liquid crystal which is held between said pixel electrode and opposite electrode;

wherein:

a nonconductive portion is provided in a part of the opposite electrode which is opposite to a gap between at least one pair of adjacent pixel electrodes.

53. A liquid crystal element, wherein a four-sided minute pixel electrode is arrayed in a lattice in X, Y directions crossing each other at a right angle on a display plane, comprising:

in view of Z direction at a right angle with X, Y directions when a pixel of i-th position in X direction and j-th position in Y direction from an edge point or a standard point is defined as p (i, j),

a first nonconductive portion, with a rectangular shape having a longer side in Y direction and a larger width in X direction than a distance between a pixel p (4m, 4n+1) and a pixel p (4m+1, 4n+1), which includes an

opposite electrode corresponding to each of at least a part of a gap between a pixel p (4m, 4n) [m, n: an integer] and a pixel p (4m+1, 4n) as well as at least a part of a gap between a pixel p (4m, 4n+1) and a pixel p (4m+1, 4n+1);

a second nonconductive portion, with a rectangular shape having a longer side in X direction and a larger width in Y direction than a distance between a pixel p (4m+1, 4n+2) and a pixel p (4m+1, 4n+3), which includes an opposite electrode corresponding to each of at least a part of a gap between a pixel p (4m, 4n+2) and a pixel p (4m, 4n+3) as well as at least a part of a gap between a pixel p (4m+1, 4n+2) and a pixel p (4m+1, 4n+3);

a third nonconductive portion, with a rectangular shape having a longer side in X direction and a larger width in Y direction than a distance between a pixel p (4m+2, 4n) and a pixel p (4m+2, 4n+1), which includes an opposite electrode corresponding to each of at least a part of a gap between a pixel p (4m+2, 4n) and a pixel p (4m+2, 4n+1) as well as at least a part of a gap between a pixel p (4m+3, 4n) and a pixel p (4m+3, 4n+1); and

a fourth nonconductive portion, with a rectangular shape having a longer side in Y direction and a larger width in X direction than a distance between a pixel p (4m+2, 4n+3) and a pixel p (4m+3, 4n+3), which includes an opposite electrode corresponding to each of at least a part of a gap between a pixel p (4m+2, 4n+2) and a pixel p (4m+3, 4n+2) as well as at least a part of a gap between a pixel p (4m+2, 4n+3) and a pixel p (4m+3, 4n+3).

54. A liquid crystal element, wherein a four-sided minute pixel electrode is arrayed in a lattice in X, Y directions crossing each other at a right angle on a display plane, comprising:

in view of Z direction at a right angle with X, Y directions when a pixel of i-th position in X direction and j-th position in Y direction from an edge point or a standard point is defined as p (i, j),

a first nonconductive portion, with a rectangular shape having a longer side in Y direction and a larger width in X direction than a distance between a pixel p (4m, 4n+1) and a pixel p (4m+1, 4n+1), which includes an opposite electrode corresponding to each of at least a part of a gap between a pixel p (4m, 4n) [m, n: an integer] and a pixel p (4m+1, 4n) as well as at least a part of a gap between a pixel p (4m, 4n+1) and a pixel p (4m+1, 4n+1);

a second nonconductive portion, with a rectangular shape having a longer side in X direction and a larger width in Y direction than a distance between a pixel p (4m+1, 4n+2) and a pixel p (4m+1, 4n+3), which includes an opposite electrode corresponding to each of at least a part of a gap between a pixel p (4m, 4n+2) and a pixel p (4m, 4n+3) as well as at least a part of a gap between a pixel p (4m+1, 4n+2) and a pixel p (4m+1, 4n+3);

a third nonconductive portion, with a rectangular shape having a longer side in X direction and a larger width in Y direction than a distance between a pixel p (4m+3, 4n+3) and a pixel p (4m+3, 4n+4), which includes an opposite electrode corresponding to each of at least a part of a gap between a pixel p (4m+2, 4n+3) and a pixel p (4m+2, 4n+4) as well as at

least a part of a gap between a pixel p (4m+3, 4n+3) and a pixel p (4m+3, 4n+4); and

a fourth nonconductive portion, with a rectangular shape having a longer side in Y direction and a larger width in X direction than a distance between a pixel p (4m+2, 4n+2) and a pixel p (4m+3, 4n+2), which includes an opposite electrode corresponding to each of at least a part of a gap between a pixel p (4m+2, 4n+1) and a pixel p (4m+3, 4n+1) as well as at least a part of a gap between a pixel p (4m+2, 4n+2) and a pixel p (4m+3, 4n+2).

55. A liquid crystal element, wherein a four-sided minute pixel electrode is arrayed in a lattice in X, Y directions crossing each other at a right angle on a display plane, comprising:

in view of Z direction at a right angle with X, Y directions when a pixel of i-th position in X direction and j-th position in Y direction from an edge point or a standard point is defined as p (i, j),

a first nonconductive portion, with a rectangular shape having a longer side in Y direction and a larger width in X direction than a distance between a pixel p (4m, 4n+1) and a pixel p (4m+1, 4n+1), which includes an opposite electrode corresponding to each of at least a part of a gap between a pixel p (4m, 4n) [m, n: an integer] and a pixel p (4m+1, 4n) as well as at least a part of a gap between a pixel p (4m, 4n+1) and a pixel p (4m+1, 4n+1);

a second nonconductive portion, with a rectangular shape having a longer side in X direction and a larger width in Y direction than a distance between a pixel p (4m+1, 4n+2) and a pixel p (4m+1, 4n+3), which

includes an opposite electrode corresponding to each of at least a part of a gap between a pixel p (4m, 4n+2) and a pixel p (4m, 4n+3) as well as at least a part of a gap between a pixel p (4m+1, 4n+2) and a pixel p (4m+1, 4n+3);

a third nonconductive portion, with a rectangular shape having a longer side in X direction and a larger width in Y direction than a distance between a pixel p (4m+3, 4n+1) and a pixel p (4m+3, 4n+2), which includes an opposite electrode corresponding to each of at least a part of a gap between a pixel p (4m+2, 4n+1) and a pixel p (4m+2, 4n+2) as well as at least a part of a gap between a pixel p (4m+3, 4n+1) and a pixel p (4m+3, 4n+2); and

a fourth nonconductive portion, with a rectangular shape having a longer side in Y direction and a larger width in X direction than a distance between a pixel p (4m+2, 4n) and a pixel p (4m+3, 4n), which includes an opposite electrode corresponding to each of at least a part of a gap between a pixel p (4m+2, 4n-1) and a pixel p (4m+3, 4n-1) as well as at least a part of a gap between a pixel p (4m+2, 4n) and a pixel p (4m+3, 4n).

56. A liquid crystal element according to any one of Claims 53 to 55, wherein:

said four-sided minute pixel electrode is rectangular in its plane shape; and

an area in which each of first to fourth nonconductive portions with a rectangular shape, which include said opposite electrode, overlaps with said rectangular pixel electrode has a narrower width in a direction of a longer side of the pixel electrode than a width in a direction of a shorter

side of the pixel electrode, in view of Z direction.

57. A liquid crystal element according to any one of Claims 53 to 55, wherein said four-sided minute pixel electrode is square in its plane shape.

58. A liquid crystal element according to any one of Claims 53 to 57, wherein said four-sided minute pixel electrode is a pixel electrode for a color display in which a pixel for three primary colors is arrayed in a mosaic.

59. A liquid crystal element according to any one of Claims 56 to 57, wherein said four-sided minute pixel electrode is composed of three four-sided minor pixel electrodes for three primary colors, which are arrayed vertically to a direction of a longer side of said first to fourth nonconductive portions with a rectangular shape.

60. A liquid crystal element according to any one of Claims 53 to 59, wherein said nonconductive portion with a rectangular shape is a nonconductive portion with a lap of $2\mu m$ in which a width of its shorter side is larger by $4\mu m$ or more than a gap between two opposite pixels through its longer side.

61. A liquid crystal element according to any one of Claims 53 to 60, comprising a group of minor nonconductive portions which include an opposite electrode corresponding to at least a part of a gap between two opposite pixel electrodes or minor pixel electrodes through two longer sides of the nonconductive portion, instead of at least one of said first to fourth nonconductive portions.

62. A liquid crystal element, wherein a four-sided minute pixel electrode is arrayed in a delta system for a color display on a display plane, comprising:

when a pixel row of i-th position from a bottom side upward is defined as q(i) and

a group of three adjacent pixels of red, green and blue, which is composed

of one of red, green and blue pixels in an odd pixel row q(2m+1) [m: an integer] and one of red, green and blue pixels in an even pixel row q(2m+2), is defined as a group of pixels for a color display and

a group of pixels for a color display of j-th position from a left side on q(2m+1) and q(2m+2) is defined as Gq(j),

a first T-shaped nonconductive portion which includes an opposite electrode corresponding to each of at least a part of a gap between two adjacent pixels on q(2m+1) in a group of pixels for a color display composed of two pixels on q(2m+1) and a pixel on q(2m+2) as well as at least a part of a pixel on q(2m+2) facing said two pixels on q(2m+1);

a first reverse T-shaped nonconductive portion adjacent to said first T-shaped nonconductive portion, which includes an opposite electrode corresponding to each of at least a part of a gap between two adjacent pixels on q(2m+2) in a group of pixels for a color display composed of a pixel on q(2m+1) and two pixels on q(2m+2) as well as at least a part of a pixel on q(2m+1) facing said two pixels on q(2m+2);

a second T-shaped nonconductive portion shifted leftward by a pixel from said first T-shaped nonconductive portion, which includes an opposite electrode corresponding to each of at least a part of a gap between two adjacent pixels on q(2m+3) in a group of pixels for a color display composed of two pixels on q(2m+3) and a pixel on q(2m+4) as well as at least a part of a pixel on q(2m+4) facing said two pixels on q(2m+3);

a second reverse T-shaped nonconductive portion adjacent to said second T-shaped nonconductive portion, which includes an opposite electrode corresponding to each of at least a part of a gap between two adjacent

pixels on q(2m+4) in a group of pixels for a color display composed of a pixel on q(2m+3) and two pixels on q(2m+4) as well as at least a part of a pixel on q(2m+3) facing said two pixels on q(2m+4);

a third T-shaped nonconductive portion shifted leftward by a pixel from said second T-shaped nonconductive portion, which includes an opposite electrode corresponding to each of at least a part of a gap between two adjacent pixels on q(2m+5) in a group of pixels for a color display composed of two pixels on q(2m+5) and a pixel on q(2m+6) as well as at least a part of a pixel on q(2m+6) facing said two pixels on q(2m+5); and

a third reverse T-shaped nonconductive portion adjacent to said third T-shaped nonconductive portion, which includes an opposite electrode corresponding to each of at least a part of a gap between two adjacent pixels on q(2m+6) in a group of pixels for a color display composed of a pixel on q(2m+5) and two pixels on q(2m+6) as well as at least a part of a pixel on q(2m+5) facing said two pixels on q(2m+6).

63. A liquid crystal element according to Claim 62, comprising:

a longitudinal minor nonconductive portion forming a longitudinal area of the nonconductive portion between adjacent pixels in the same pixel row;

a lateral minor nonconductive portion forming a lateral area between said adjacent pixels and a pixel in the same group of pixels for a color display as said adjacent pixels, which is opposite to both of these pixels; and

a cutting portion of the nonconductive portion dividing said longitudinal minor nonconductive portion and said lateral minor nonconductive

portion, instead of at least one of said first to third T-shaped and reverse T-shaped nonconductive portions.

64. A liquid crystal element according to Claim 62 or 63, wherein said longitudinal minor nonconductive portion and lateral minor nonconductive portion instead of at least one of said first to third T-shaped and reverse T-shaped nonconductive portions is a nonconductive portion with a lap of 2μm having a common area with a width of at least 2μm, in view of Z direction at a right angle with a display plane on which a pixel is arrayed.